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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,897	07/11/2006	David S Innis	60691-300201	8892

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IPLO-Intellectual Property Law Offices
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EXAMINER

MEI, XU

ART UNIT	PAPER NUMBER
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2615

MAIL DATE	DELIVERY MODE
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06/13/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,897	Applicant(s) INNIS ET AL.	
	Examiner Xu Mei	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is responsive to the applicant's amendment dated 7/11/2006.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boner (US-3,457,370) in view of Brozovich et al (US-5,661,434, hereafter, Brozovich).

Regarding claims 1, 3 and 11, Boner discloses an audio speaker (see Fig. 1), comprising: a speaker enclosure (inherently included for speaker pair 17 and 18); at least two drivers (speakers 17 and 18) being disposed within said enclosure; a speaker circuit (10a, 20a, 22a), including: a first electrical lead (11) being engaged to a first said driver; a second electrical (12) lead being engaged to said first driver; said first electrical lead (11) being engaged to a second said driver; said second electrical lead (12) including an impedance circuit (22a) and being engaged to said second driver; said impedance circuit (22a) including a plurality of capacitors (C₂, C₄) being engaged in parallel. The speaker drivers 17 and 18 are electrically connecting in parallel.

What's not taught by Boner is the speaker circuit including an electrical switch being engaged to shunt or bypass electrical current around the plurality of capacitors. However, shunt or bypass electrical switching circuit is old and well known in the art. Brozovich discloses an amplifier circuit (see Figs. 2a, 2b) that including the well known shunt or bypass electrical switching circuit (SW1-SW3) for controlling various impedance matching networks (30-32) to achieve efficient power control and desired impedance matching for the amplifier circuit (see also col. 3, lines 43-67). It would have been obvious to one of ordinary skill in art to modify the speaker circuit taught by Boner by including a well known shunt or bypass electrical switching circuit as shown in Brozovich, in order to achieve efficient power control and desired impedance matching for the speaker circuit.

Regarding claims 2 and 12, the shunt or bypass electrical switch (such as SW3) shown by Brozovich is parallel to impedance matching network.

Regarding claims 4 and 14, Boner discloses the values of components of elements of the impedance circuit (22a) are to be chosen as desired to the impedance to be matched (col. 3, lines 54-67). It would have been obvious to one of ordinary skill in the art to select or choose the capacitance values of the capacitors as desired (i.e., approximately the same or equal) for impedance matching.

Regarding claims 5-8, and 15-17, the improved impedance circuits that including the shunt or bypass electrical switching circuit by the combinations of Boner and Brozovich would have inherently including the specific electrical signal flow or bypass property as claimed.

Regarding claims 9-10, and 19-20, the claimed reduction in specific values of impedances for the speaker drive is depending on the values of components of elements of the impedance circuit (22a) are to be chosen as desired to the impedance to be match (col. 3, lines 54-67). It would have been obvious to one of ordinary skill in the art to select or choose the capacitance values of the capacitors and values of other components for the impedance circuit for specific desired impedance matching.

For what's called for in claim 13, see Fig.1 of Boner where capacitors C_2 , C_4 are connected in parallel with speaker drive 18.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Skene, McDonald, Gary, Kim et al, Wright discloses various electrical devices including different impedance control circuits.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xu Mei whose telephone number is 571-272-7523. The examiner can normally be reached on maxi flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2615

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Xu Mei/
Primary Examiner, Art Unit 2615
06/05/2008